

INHALATION
IN THE
TREATMENT OF DISEASES
OF THE
THROAT AND LUNGS
BY
DR R. G. WATTS.

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INHALATION

FOR THE

CURE OF DISEASES OF THE LUNGS.

A POPULAR AND PRACTICAL TREATISE

ON THE

ONLY RATIONAL AND CERTAIN CURE OF CONSUMPTION, BRONCHITIS
ASTHMA, AND ALL DISEASES OF THE RESPIRATORY ORGANS.

WITH

NUMEROUS CASES

ILLUSTRATING THE SUCCESS OF THE TREATMENT.

BY

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&c., &c.

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PREFACE.

IN the following treatise I intend to offer some practical suggestions on the manner of carrying out a system of treatment for the cure of diseases of the respiratory organs.

The excessive mortality in this country arising from these diseases must be apparent to every one who gives any attention to the subject.

The returns of the Registrar-General show us that nearly one-half of the deaths are caused by diseases of the lungs, which have until recently baffled the skill of the most experienced physicians.

The principle of exhibiting remedial agents by Inhalation is now found to supply a certain means of treating these diseases, and for some years my attention has been specially directed to this practice, and with very marked success.

The advantages of Inhalation are now so well established that I am induced to make this system more fully known to the world, in the hope that the great benefit to be derived from it may be widely disseminated among all classes.

This progress in the art of medicine justifies the antici-

pation that the cure and comparative extinction of consumption even, are among the benefits that may reasonably be hoped for, when the acquaintance with the true merits and scientific nature of this system of treatment becomes more general, and that it will be universally adopted, and will open up to us a still wider field of therapeutic success in our contest with pulmonary disease.

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THE ADVANTAGES OF INHALATION IN THE TREATMENT OF DISEASES OF THE LUNGS.

AT a very early period in the history of medicine we find evidence of a conviction prevailing among physicians of the advisability of exhibiting medicinal substances, in diseases of the respiratory organs, by means of the function of respiration. This method of administering medicines is called "inhalation." It consists, not in giving one peculiar remedy, but in a particular method of giving many remedies. That is to say, the medicines inhaled are not alike in all cases, nor even in all stages of the same case. We may swallow a purgative, an emetic, or an opiate, and though all are taken in the same manner and pass into the same organ, yet each produces a different effect. So it is with inhaled medicines; these are adapted to the condition of the lungs, in the same manner that we adapt those given by the stomach to the object to be accomplished by their use. The physician prescribes one inhalant to soothe, another to promote expectoration, a third to allay spasm, a fourth to stimulate secretive function or to control its excessive action, and a fifth to purify the blood and remove morbid deposits. I am aware that much misapprehension exists on this subject. Some regard it as a particular medicine applicable to all cases, others as several specific medicines, each adapted to the cure of a particular kind of disease; but it is neither a nostrum nor a panacea; it is simply a rational and scientific mode of exhibiting medicinal compounds. It is a system of practice as complicated and requiring as much

judgment and experience for its employment as the administration of medicines by the stomach.

The great error into which the earlier advocates of inhalation fell was the vain search after a specific remedy applicable to every form of pulmonary disease. Instead of striving to reduce the facts within their knowledge and experience to a system, and to avail themselves of the observations of others in order to establish rules for future guidance, they occupied themselves in arguments about the relative merits of certain remedies, and by this means the practice never attained that importance to which it was entitled, but gradually passed into comparative forgetfulness without having been submitted to any extended series of experiments, and before it was possible to form any estimate of its real value. Within a few years renewed attention has fortunately been directed to this subject, and with every promise, not only of establishing it firmly, but also enlarging the sphere of its utility.

In order to show the feeling of the medical profession on the desirability and utility of this method of treatment, I subjoin a few brief extracts which could easily have been multiplied from the numerous works written on this subject. No amount of assertion, even if it should proceed from the oldest and most highly regarded authorities, can overturn the evidence of one well-authenticated fact; but it is at all times very satisfactory that those opinions which a physician holds should be sanctioned by the teachings of the most respectable authors of every age, and it is with this view that I select the following :—

Dr. Forbes, the editor of the *British and Foreign Medico-Chirurgical Review*, tells us in an article on Asthma that “reason, analogy, and experience unite to justify the inhalation practice.”

Dr. Hyde Salter says—"The air-passages are peculiarly favourably placed for this topical medication, and the movements of respiration supply us with a natural and easy means of conveyance. Inhalation, indeed, has all the advantages of local treatment—its concentration, its manageableness, and rapidity of result."

In Dr. Carpenter's work on Physiology, which is one of the standard text-books of the profession, I find the following remarks:—"The pulmonary surface affords a most advantageous channel for the introduction of certain medicines which can be raised in vapour, when it is desired to affect the system with them speedily and powerfully; and it is most astonishing to witness the extraordinary increase in potency which many substances exhibit when they are brought into relation with the blood in the gaseous form."

Dr. Abbotts Smith, in his work on Consumption, thus speaks on this point:—"Inhalation, like every other remedial means, cannot always succeed; but its great value in the treatment of a large proportion of pulmonary, bronchial, and laryngeal disorders is daily becoming a more generally recognised fact."

Dr. Riadore, treating on the subject of the inhalation of oxygen, says—"From very extensive trials for some years past, I am fully satisfied that cases of consumption are remediable and often curable by inhalation of some of the gases, that would inevitably prove fatal by depending upon administering medicines by the stomach according to the usual system.

. . . The results of the practice, and *post-mortem* examination of some scores, convince me that the disease may both be arrested and cured by the plan of applying gases and vapours to the seat of the disease, in whatever part of the lungs it may be seated."

In an editorial comment on a recent publication the *Lancet*

remarks—"The utility of topical medication of the air-passages, by the inhalation of the vapour of water impregnated with various substances, is extensively recognised by the profession. The absence of any simple and efficient apparatus for the purpose is often the only reason why the great relief which such applications are capable of affording is withheld from the patient."*

Dr. Reid, whose extensive researches on the influence of the atmosphere in disease are well known, observes—"Medical men have long and justly been jealous of any interference with organs so important in their functions and so delicate in their structure as the lungs ; but if a proportionate delicacy and care be employed in the remedies applied, certainly no field holds out a more promising path of inquiry than that which is presented in investigating the influence of atmospheric air on the person, and the varied materials which can be mixed with it, and thereby brought to bear more gently and unconsciously on the system, than by any other mode of treatment."

In the writings of Scudamore we find ample materials for illustrating this point, but I think the following passages especially valuable :—"The diseases in which I consider it proper to adopt the inhaling method are some kinds of cough, certain asthmatic conditions of the air-passages, chronic bronchitis, and, above all, tubercular consumption. . . . I have in several cases succeeded in producing the absorption of tubercles by the continued influence of the inhalation of iodine. . . . I also believe that it does, in the most favourable manner, assist the softening process when the disease has come to that stage, causing a more free expulsion of the tuberculous matter by expectoration, inducing a more healthy condition of

* *Lancet*, February 11th, 1865.

the bronchial mucous membrane, very probably dispersing crude tubercles by the stimulus given to the absorbents ; and, finally, assisting the healing process in the ulcerated cavity.”

Among French writers Cottureau, Louis, Gavarret, and Gannal all speak in the highest terms of this method of treatment.

The last writer says—“That chlorine gas, diluted with a large proportion of common air, and softened further by its combination with aqueous vapour, is a powerful therapeutic means of cicatrising ulcers of the lungs, where they exist, and of preventing their formation when a predisposition is indicated.”

The late Dr. Maddock, who successfully practised this method of treatment, bore ample testimony to its value, as the following passages from his work will show :—“Although the reasonableness and importance of inhalation, or the local action of medicated vapours in diseases of the air-passages and lungs, cannot be questioned, it must be admitted that it has not obtained for itself in this country that extent of inquiry and examination which it deserves. . . . And yet it is not easy to imagine how this mode of treating diseases of the breathing organs should have been neglected, its feasibility is so self-evident, and in such accordance with the theory, principle, and practice of medical science, and the teachings of common sense ; for it is an admitted fact that remedies directly applied to the absorbing surface of the lungs, independently of the specific local influence they exert, are carried into the system and produce analogous effects as when directed to the surface of the stomach. . . . We shall incontrovertibly show, not by theoretical speculations, but by facts furnished by the experience of highly-talented practitioners, and of ourselves, that pulmonary consumption in certain stages of the disease is positively curable, and that, under the most adverse circumstances, it is possible to afford extraordinary alleviation of suffering by

a judicious use of medicated inhalations. . . . The *rationale* of inhalation is exceedingly simple, indeed nothing can be more simple; and it will be at once evident to any person who will give the matter one minute's consideration that this plan of treatment is based upon strictly scientific and correct principles, for it requires no professional learning to perceive that, from the relative position of the stomach and lungs, remedies must necessarily be more effective in diseases of the lungs when introduced into the whole aërial cavity and to the absorbing surfaces of these organs, than when exhibited through the stomach, where they must undergo great and unknown changes from the process of digestion, &c., and can only reach the seat of disease by means of the circulation."

Surely nothing more is required to establish the fact of the recognition of the principle of local treatment in diseases of the lungs and air-passages than the extracts given above, and the results, which repeated observations have verified, point to its success.

The basis upon which this mode of practice rests may be explained in a few words. The air we breathe is more immediately concerned in the production of disease than any other influence to which we are exposed. It is subject to changes in its *temperature*, in its *density*, and in the amount of *impurities* which it contains, all of which directly affect our health. It impresses locally on the internal surface of the lungs the influence of every change in its condition. Through the lungs it acts on the blood, and through the blood on every organ, and muscle, and nerve of the body.

The causes upon which these effects depend are inhaled into the lungs. Now it is quite as practicable to mingle with the air we breathe substances calculated to counteract any noxious matter thus taken into the system, and also substances which

will act on the tissues of the lung precisely as they would on every other tissue to which they may be applied, in accordance with their well-known curative properties. The advantage of the minute subdivision of medicinal substances to be administered by the stomach has long been recognised, as is shown by the preference given to solutions over solids, and also in the careful grinding employed when medicines are given in the form of powders or pills. As vapour is only a more extended application of this principle of subdivision, it is a still more desirable form of administration, and its potency has been admitted by more than one writer ; indeed, it is characterised as acting with the “rapidity of touch.”

Inhalation gives us access to the air-passages and cells of the lungs for the application of our medicines. But it will be at once seen that the mere act of inhaling is in itself no remedy. The remedy lies in the particular combination of medicines which the physician prescribes ; while the kind of medicine, the strength, and the form of administration must be regulated by his experience and professional knowledge. I use whatever is best adapted to the peculiarity of each case, and in such a manner as is best calculated to effect the desired end.

From close observation and experiment, the following conclusions have been arrived at in relation to the action of inhaled remedies :—

1st. That there are no medicines which can be volatilised that may not be inhaled with safety under proper precautions as to quantity and kind.

2nd. That the doses of medicines by inhalation cannot always be determined or regulated by those which are given by the stomach.

3rd. That the action of many remedies when inhaled

differs from that of the same remedies when taken into the stomach ; their use cannot, therefore, be altogether governed by those rules which guide us in their administration through that organ.

4th. That every local effect, such as cleansing, soothing, and stimulating, which can be produced by local applications to ulceration on the surface of the body, can also be produced on ulceration in the lungs by suitable inhalations.

Theorising with regard to the action of medicines never yet produced any beneficial result ; there is but one test of their efficacy, and that is success. We have no right to assume any fact with reference to the effect of any medicine, but whatever is established as the fruit of experience cannot be controverted, and is above all theory.

Most successful results have been attained from the use of inhalation in the treatment of acute and chronic catarrh, œzema (ulceration of the nostrils), diphtheria, laryngitis, croup, bronchitis, chronic cough, whooping-cough, asthma, and consumption in all its stages.

In catarrh, influenza, and all the inflammatory affections of the throat and nose, the medicated vapour has an immediate soothing effect on the inflamed membrane over which it passes, allaying the irritation and causing the parts speedily to return to a healthy condition.

Unfortunately, these affections are too generally treated as very trifling complaints, and in many instances are allowed to assume a chronic character, the patient losing sight of the dangerous consequences which may arise from such neglect. When these diseases are neglected or improperly treated they are very liable to pass into the confirmed stage of ulceration of

the mucous membrane, the morbid process not only destroying the softer tissues, but also, in many instances, the bony structures of the nose.

In these cases, in addition to the use of medicated vapours, a direct application of medicinal solutions must be made to the diseased parts, and for the purpose of making these applications a curved syringe will be necessary.

It is shown in the accompanying engraving, which sufficiently explains the principle of its action.

By this instrument all parts of the throat, the opening of the windpipe, the tonsils, and parts behind the palate can be completely washed with any solution that may be considered necessary for the case under treatment.

Although in a large majority of cases the use of this syringe requires the presence of a medical man, yet there are many persons who can be taught to use it for themselves.

By means of this instrument solutions of the salts of zinc, silver, copper, &c., and vegetable infusions of an astringent or stimulant character, have proved successful in effecting the cure of long-standing cases which have not yielded to general or constitutional remedies alone.

I am convinced that many cases have been permitted to attain a degree of severity which might have been averted if these means had been earlier employed, and that aggravated cases of œzena and chronic catarrh have yielded, even when regarded as incurable.



Spasmodic asthma is a disease which manifests more speedily the beneficial influence of direct treatment by inhalation than any other affection to which the lungs are subject. Except in those very aggravated forms of the complaint in which the air-cells and bronchial tubes of the diseased part are already disorganised, cure is certain to follow a steady and proper use of remedies by inhalation.

The little relief which the asthmatic sufferer has hitherto obtained has been procured by *inhaling*. The old custom of burning saltpetre paper, of smoking stramonium, and the more recent employment of ether and chloroform during the fit, are illustrations of the action of inhaled remedies, and though these can be regarded only as partial in their application, and limited in their usefulness to affording relief during the fit, yet the relief they have thus afforded overbalances the benefits obtained from all others a thousandfold. And if this be true of the inhalation of three simple palliatives, it can be readily understood how efficacious must be a thoroughly judicious treatment by inhalation, under the care of a physician practically acquainted with the action of inhaled remedies, and who directs his efforts not merely to afford relief during the fit, but to remove the morbid sensibility of the mucous membrane on which the attack depends. The length of time necessary to entirely remove the diseased condition of the lungs on which asthma depends, differs considerably in each patient. Certain forms of the disease speedily recover, but after asthma has endured for many years and has become established and inveterate by age, progress can only be made slowly. As a rule the asthmatic invalid should make up his mind at the outset to persevere in the use of the inhaler until every symptom has entirely disappeared. Many patients defeat their own cure by abandoning treatment almost as soon as they have obtained relief.

The course that should be pursued in the treatment of all asthmatic cases is briefly as follows:—During the fit we require to relax the spasm and afford immediate relief; while in the interval between the fits those means must be employed which are to remove the cause of the disease and prevent the recurrence of subsequent attacks. The first is merely *palliative*, the second is *curative*. Both are applied by inhalation. The inhaling instrument which I recommend, and which is fully described at page 21 of this treatise, is charged several times a day with *anti-spasmodic*, *sedative*, or *alterative* medicines adapted to the peculiarities of the case, and used for ten minutes or a quarter of an hour each time. In addition to this the room in which the patient sleeps is each night charged with a medicated vapour produced by burning asthmatic pastilles, thereby keeping up a constant action on the diseased surface of the lungs which is necessary to produce the cure of this most obstinate disease.

The experience of every age, and the statistical tables of every eminent authority on the subject, clearly show that of all the diseases to which the human family is liable, none is so prevalent or so fatal in its issue as pulmonary consumption. In my treatise* on this disease, I have given in clear and simple language its nature, causes, symptoms, and rational treatment. I shall now, therefore, merely point out what, according to my experience, appear to be the results which may be reasonably expected from my method of treatment.

In *incipient consumption*, when the constitution is good, and the general health but slightly impaired, the further development of the disease may be arrested, and the complete restoration of the health established by suitable inhalations.

* *Consumption and its Cure*. By Robert G. Watts, M.D. Second Edition. Simpkin, Marshall, and Co., London.

In *the second stage of consumption*, when the depositions exist as crude tubercles, the disease being confined to a circumscribed portion of one lung, and the constitution but slightly impaired, cure is effected in two ways, in which either a change takes place in the character of the deposit, or by the softening of the tuberculous matter and its expulsion from the lungs by expectoration, leaving an open excavation or cavity, which is subsequently healed by the action of the inhaled vapours.

In *the last and confirmed stage of consumption*—that is, when a greater or less portion of the lung is already broken down, forming an ulcerous cavity, the possibility of cure depends wholly on the extent of the disease and the amount of the constitutional taint and disturbance. If the destruction is limited to a part of one lung and the surrounding textures are healthy, as is often the case, cure takes place by the healing of this cavity in the same manner as in the second stage.

If the disease, on the contrary, involves the whole of one lung, the prospects of recovery are greatly diminished; but still cure is possible so long as the other lung retains its integrity and is unobstructed in its functions. Life may be preserved even after the destruction of one lung. A person in this condition cannot have the same power of endurance in pursuit of his ordinary occupations, but he may still live and enjoy comparative freedom from suffering for many years. In such cases, which have hitherto been considered as hopeless, a properly conducted course of treatment by inhalation has produced the following marked effects: the cough and expectoration have been materially controlled, and all the constitutional disturbances greatly modified. In this condition the patient may remain stationary as regards flesh, although this will be, of course, below the former standard.

When both lungs are involved in extensive disease, cure is impossible, and it is folly ever to hope for so great an improvement in the healing art as to embrace these cases among the list of curable. The most that can be accomplished is to afford relief by cleansing the lungs from mucus and pus which obstruct the bronchial tubes, and thereby add greatly to the ease of breathing; to soothe the cough and allay the irritation of the lung, so as to promote sleep, and make the patient comparatively comfortable. But, in defiance of any skill within the power of man, the duration of life is a question of weeks or months. This, however, is no reason why some well-directed effort should not be made to procure the greatest amount of relief possible, and this can be more confidently looked for from the aid of inhalation than from any other mode of treatment.

From the above remarks it will be seen how necessary it is for those who are predisposed to pulmonary disease to keep a close watch over the earliest perceptible signs of its approach. All authorities agree that in its early stages consumption is as amenable to treatment and as curable as any other form of disease. It cannot be known too soon who are the subjects of it, and it is impossible to ascertain this but by a most thorough, careful, and frequent examination into the constitutional and local symptoms of the disease.

If the lungs are sound and healthy, an examination cannot produce the disease, and if any evidence of the malady be detected, the sooner the patient comes under treatment the better chance there will be of his deriving benefit, and the stronger probability of an ultimate cure being effected. The treatment should in any case be persevered in so long as the least vestige of the disease remains.

I think I have now said enough to lead all to hope that a life

of greater usefulness will be opened up to the physician, by a more rational application of the principles of medicine to the cure of pulmonary diseases. Notwithstanding all opposition, inhalation must eventually become the chief treatment in pulmonary diseases. It is certainly the most rational one, and the only one which has hitherto been attended by such success as warrants those afflicted with consumption in looking forward to recovery.

THE APPLICATION OF THE TREATMENT TO DISEASES OF THE LUNGS.

THE curative treatment of consumption, asthma, bronchitis, and other diseases of the throat and lungs, has hitherto been attempted exclusively by medication through the digestive organs, by counter-irritation, change of climate, and dietetic regimen.

These various modes of treatment having generally been found ineffectual, I shall now proceed to point out the most rational system we can pursue in every form of lung disease. For the sake of clearness, I shall subdivide my treatment into two methods of procedure—*local* and *constitutional*.

By the first I seek to apply remedial agents directly to the diseased lungs; by the second I endeavour to sustain the vital power of the system, and to obviate or correct any derangement of the other organs which may arise during the progress of the disease.

Local treatment of the lungs, as I have before shown, can be very easily and effectively accomplished by availing ourselves of the natural function of respiration. In fact, medicines can be breathed as well as swallowed, and in being so breathed, or inhaled, they are carried to every portion of the lung structure to which the air, as the medium of their carriage, obtains access. They thus speedily reach the diseased parts, unchanged by admixture with any substance calculated to alter their composition

or properties, and thus exert their peculiar action on the tissue with which they come in contact, or are transferred to the blood.

There are various forms in which remedies employed for inhalation can be administered, and there are several ways in which their direct application can be accomplished. For the sake of description and clear understanding of the subject, all inhalations may be divided into two principal groups—the *moist* and the *dry*.

In the first group, or moist inhalations, we have—

1. Warm vapours arising from water heated to various degrees of temperature, and charged with medicinal substances properly prepared for vaporisation.

2. Medicated spray, produced by mechanical force.

In the second group, or dry inhalations, we have—

1. Simple gases or vapours produced by heat or chemical action, and mingled with the air.

2. Minutely divided solid substances, or impalpable powders.

Each of these forms requires special apparatus either for their production or administration, such as an inhaler, an atomizer, with their appropriate tubes, the evaporating dish, properly contrived syringes, and lastly, the gas-chamber.

For the administration of medicines in combination with vapour of hot water, which I distinguish as moist inhalations, an instrument called an inhaler is necessary.

There are several forms of this instrument in use, a few of them bearing the names of those who have employed them or suggested their construction. Some of these I regard to be defective in the principle of their action, some are cumbrous and unsightly, some are difficult to keep properly cleansed, while others are easily put out of order. The following woodcuts describe a very portable, inexpensive and highly effective form

of inhaling instrument entirely free from the foregoing objections, and to which I therefore give the preference and recommend to my patients :—

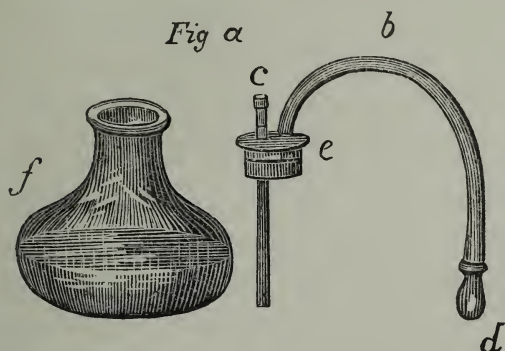


Fig. *a* displays the different portions of the instrument. *f* is a glass globe capable of containing about two pints of fluid; *e* is the stopper made of cork, and covered with a metallic capsule so perforated as to admit of the introduction of two tubes through its substance; *c* is an upright glass tube passing through the cork and reaching nearly to the bottom of the glass vessel, and permits a stream of air to enter and pass through the fluid contained in the globe; *b* is an elastic tube about twelve inches long, fastened at one end to the metallic cap of the instrument, over the second aperture in the stopper, and terminating at the other end in a glass mouth-piece, *d*.

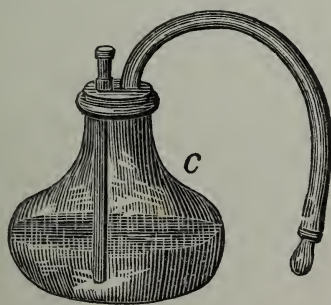


Fig. *c* displays the different portions of the instrument properly adjusted.

The mode of using this instrument is very simple. The glass vessel must be half filled with water, heated to a temperature to be determined by the physician according to the stage of the complaint, the nature of the remedies to be used, as well as the condition of the patient. To this water the prescribed quantity of the combination of medicines to be inhaled must be immediately added, and the neck of the vessel securely closed by the stopper and its attached tubes. Upon placing the glass mouth-piece between the lips, and drawing in a steady deep inspiration, the air rushes down the upright glass tube, passes through the liquid, and throws it into violent agitation; the volatilised medicines mix with this air and pass directly into the lungs without loss or alteration, and produce that effect upon the air tubes and cells which was designed by their selection. The act of inspiration being complete, the air in the lungs should be permitted to escape through the nostrils only, the lips being still kept closed on the mouth-piece—through which it should not be blown, or the fluid contents of the globe will be discharged by the upright glass tube. Some little practice is necessary to enable the patient to inhale properly, but the process is easily acquired, and calls for little effort beyond that of an ordinary deep inspiration, and is not accompanied by any inconvenience or fatigue. It may, however, be necessary at first, in all cases, to pause occasionally, and especially when the breathing is short and hurried by disease.

In performing the act of inhalation, the patient should assume the easiest attitude consistent with the condition of health. The best position, when the strength permits it, is to keep the body erect while standing or sitting. But the recumbent posture may be had recourse to, when the debility is such as to preclude the possibility of keeping the upright position for a sufficient length

of time. The dress should be loosened around the throat and waist, and every mechanical impediment to a free and full inspiration carefully removed. The daily number of inhalations and their duration, must, of course, be a matter of prescription in each individual case, regulated both by the strength of the patient and the effect which it is desirable to produce.

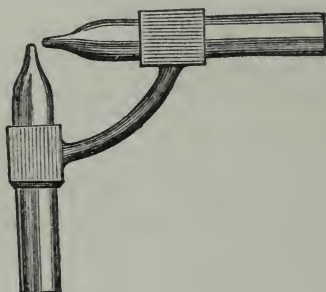
Fresh water and fresh medicines must be used at each time of inhaling, and I need scarcely add that the instrument, in all its parts, must be kept scrupulously clean.

From what I have now said, the advantages of this instrument will be at once apparent. It is extremely portable, easily cleansed, not liable to get out of order, readily set in action, and by its use produces a direct and prompt medicinal effect upon the lungs, which is indispensable to the successful treatment of diseases of these organs.

One of the earliest and most marked effects of inhalation is an increased freedom of respiration. This results partly from the mechanical expansion of the lung tissue, and the dislodgement and expectoration of accumulated and adherent secretion, and partly from the soothing effect produced by the inhaled vapour acting directly upon the inflamed or irritable surface of the air-passages. By its continued use a constitutional effect is produced on the system through the medium of the blood, into which the medicinal particles obtain admission in obedience to the vital laws of absorption. By varying the medicines put into the water, the effects produced upon the lungs are correspondingly changed, hence it is necessary that they should in every instance be prescribed with careful reference to the requirements of each case.

Another mode by which moist inhalations are administered is by means of the instrument called an atomizer.

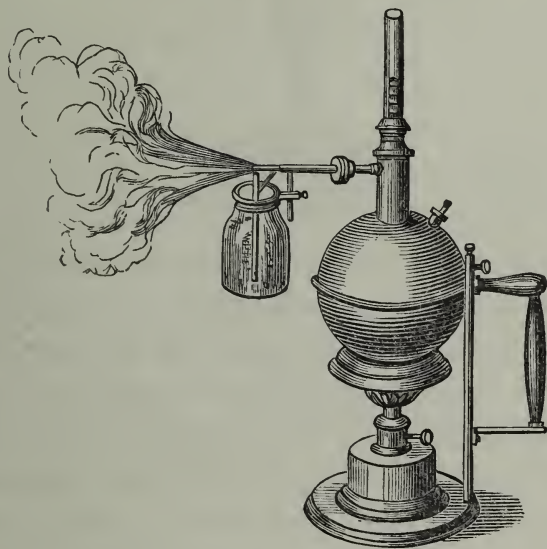
It has been established as a principle in pneumatics that when a current of air passes forcibly over the orifice of a tube, and at right angles to its long axis, a vacuum is created which induces an upward current in the tube. Availing himself of the knowledge of this principle, Dr. Bergson constructed an ingenious instrument for producing a shower of spray. Two glass tubes with narrow openings are connected at right angles, thus:—



Now, if the upright tube be placed in any fluid and the horizontal one be forcibly blown through, the fluid will rise in the tube, and as soon as it reaches the orifice and meets the current of air, it is immediately dispersed in the form of spray. By means of this ingenious, simple, but highly scientific contrivance, we are thus enabled to render medicinal solutions respirable. Various expedients are employed to accomplish the spray-producing force; such as an elastic bag with valves, so arranged that it shall act the part of a bellows. This requires, of course, a certain amount of exertion on the part of the patient or an assistant which is not at all times convenient from the fatigue which it produces.

The apparatus of Siegle, here represented, is as yet the most manageable and effective, and possesses manifest advantages over the bellows. Here the blowing force is exerted by a

jet of steam generated by a small boiler. It is self-acting, and thus renders any effort on the part of the patient or attendant unnecessary, and we are able to combine with the medicinal solutions a certain amount of watery vapour, which is known to exert a most soothing and beneficial effect on the mucous



membrane. In those cases in which the presence of watery particles may be deemed inadvisable, the bellows power must be had recourse to; but then we possess other means of administering medicines in the form of vapour free from this objection, and which I term dry inhalations, and shall now proceed to describe.

Dry inhalations are prescribed when it is desirable to administer medicinal substances free from watery vapour.

The following woodcut represents a portable and simple apparatus, by means of which these dry inhalations can be very successfully administered. It consists of a light wire stand and frame, supporting a small porcelain dish capable of holding the

powder or liquid to be vaporised. The heat is applied by a small spirit-lamp placed below the dish.



By means of this little apparatus substances can be volatilized with speed, and by selecting those which are merely changed in form and not decomposed by the heat applied, we obtain a most efficient and powerful method of medication. This apparatus is used to medicate the air of the room in which the patient sits or sleeps, thereby maintaining through the act of respiration an almost constant action on the diseased surface of the lungs, or the vapour can be more abundantly inhaled by holding the mouth over it as it rises from the dish.

Another contrivance, by which medicinal substances may be rendered volatile and respirable when the air of the apartment is impregnated with them, is in the form of the Pastille.

This consists of a small tinfoil cone, filled with a combination of vegetable and mineral substances in such proportions as the physician may deem necessary for the particular case under treatment. The manner of its use is as follows:—The point of the cone must be ignited, and then placed on a plate on the floor. The patient should sit before it, holding the head over the burning pastille, and inhale the fumes well into the lungs. About two minutes are all that are required for its combustion.

The medicated vapours thus generated are freely diffused through the atmosphere of the room, and by this means a continuous medicinal action is maintained upon the lungs. The best time for its use is on retiring to rest, though, if required, it may also be used at any time in the day. One pastille is quite sufficient to medicate the air of an ordinary-sized bedroom. The vapours exert no injurious influence on the stomach, which is so frequently the case with medicines otherwise administered, and they are not the least hurtful to healthy lungs, or even unpleasant to the senses. The use of these pastilles renders the air of an apartment soothing and antispasmodic. They will generally control a severe fit of asthma within five minutes, and insure comfortable rest to those otherwise unable to sleep. No asthmatic patient who has once tried them fails to have recourse to them during a paroxysm of the disease.

In bronchitis their action is powerfully expectorant and sedative, unloading the air-tubes of mucus, and soothing the inflamed membrane.

In consumption and all forms of chronic cough they produce very great relief and substantial benefit, purifying the blood, promoting expectoration, and allaying bronchial irritation.

For the exhibition of powdered medicines, technically termed "insufflation," various modifications of apparatus are employed. The principle of action in all, however, is the same; they consist of two material parts, a tube to contain and direct the jet of powder, and a syringe or elastic bag for exerting the propelling force. In affections of the passages of the nose, the fauces, or back part of the throat, the tonsils, and opening of the windpipe, this method is an important and valuable adjuvant; but I do not consider it to be admissible where the disease is situated in the bronchial tubes or air-cells of the lungs, nor am

I am aware that any results have been obtained from its employment, in cases of the last description, which would justify its adoption in preference to vapour or spray; while there are some grave objections to the practice of applying to the delicate structures of the lungs hard particles which could only tend to create irritation by their presence, and in the instance of the less soluble kinds of medicine (for which, of course, this form of administration can only be preferred) these would be very likely to accumulate and thus become an exciting cause of disease.

The gas-chamber, it may readily be conceived, is better adapted for hospital use, or for the physician in his own consulting-room, to which his patients can go for its employment, under his own supervision and control. It is not portable, and requires certain adjuncts for successful use, such as retorts to generate, and gasometers to contain the gases, the management and manipulation of which demand the presence of an experienced attendant.

This is a most powerful, valuable, and yet simple means of administering medication to the system, and so acting on the constitutional condition of the invalid as well as upon the diseased portion of the lungs themselves. It is computed that all the blood in the body is submitted to the action of the air in the lungs once in every two minutes and a half. Such being the case, if a patient remain in a gas-chamber ten minutes, the blood will have made four complete circuits of the body, and thus have been four times thoroughly submitted to the action of the gases or medicinal substances contained in the atmosphere which he has been inhaling.

This form of administration, valuable as it is, is more applicable to the earliest stage of the disease, a period when, unfortunately, the aid of the physician is very rarely called for.

The constitutional treatment of diseases of the lungs must depend upon the conditions which present themselves in individual cases; for there are functional complications which accompany the progress of any disease, which arise from certain circumstances peculiar to the individual, and which must be duly considered in prescribing for their relief or removal.

There are, however, certain general principles sufficiently well established for our guidance, founded on the accumulated experience of many eminent men, and which can be variously employed and adapted to the requirements of the case immediately under consideration. These I shall now proceed briefly to consider.

In the class of medicines called tonics, the physician has abundant material for choice; and yet it is remarkable how difficult it is to select the particular medicine which will, in all respects, suit the peculiarities of the constitution for which he is prescribing. The preparations of iron, either alone or in combination with quinine, and some of the mineral and vegetable acids, are favourite medicines with a large proportion of practitioners; but there are many persons in whom they fail to produce the desired effect, while some stomachs will not tolerate them at all. The same remark will apply to the use of potassium, manganese, and ammonium, in combination with iodine, bromine, and phosphoric acid. Some of the compounds of these various substances possess a high reputation, and have been much lauded for their efficacy in certain cases, and unquestionably justly so; but the recorded beneficial results have been due, I think, more to the constitutional peculiarities of the person to whom they were administered, than to any special virtue in the remedy, or the compound, itself. It may be safely affirmed that there is no one medicine universally applicable,

and the selection of the medicinal compound to be given must depend upon the individual experience obtained by the physician during the treatment of each case.

The great objects to be kept in view, in determining on this part of the treatment, are to incite the appetite for food, to secure its proper assimilation, and to correct those irregularities of function which make themselves apparent by the various well-known symptoms of indigestion. Much of this can undoubtedly be achieved by the careful regulation of the diet, but recourse must be had to the use of such medicines as possess tonic and alterative properties, for in exhaustive diseases, when the vital powers are depressed, we must make up for the loss of activity by artificial means such as this class of remedies presents to us.

The hygienic management of disease is a very important portion of a physician's duty in prescribing for the treatment of his patient. It includes all the necessary directions with regard—1st. To the proper ventilation of the apartments of the invalid, and the selection of suitable localities when, from any peculiar circumstances, it may be necessary to employ a temporary change of climate. 2nd. The regulation of the diet, as to the time of taking the meals, the nature, quality, and amount of the food and drink to be employed. 3rd. A due attention to the clothing and manner of dress. 4th. The limit, mode and periods of exercise; and lastly, the use of bathing. On these points no definite rules can be established which shall be universally applicable. The physician's directions on these various subjects can only be given with advantage after a careful consideration of the condition and circumstances of the individual for whom he is about to prescribe. And I may here add that the medical attendant is in a great measure dependent upon his patients or their friends for the success of his efforts in respect

to his hygienic treatment. There is no particular with regard to the personal history of his patient which should be withheld from him, and his directions should be carefully attended to and faithfully carried out.

ON CONSULTATION BY CORRESPONDENCE.

Persons residing at a distance from London are often deterred from employing my inhalation treatment by the erroneous idea that this cannot be done without the fatigue and expense of a long and tedious journey. There is no occasion for hesitation on this account. I am daily treating patients residing in the country, with the most satisfactory results.

Where a detailed report of the disease cannot be obtained from the family medical attendant, those who desire advice should write a full description of their symptoms, embracing the length of time they have been out of health, whether they have cough, shortness of breath, expectoration, pain in the chest; if they have ever spat any blood; if they are wasted in flesh; if they have fever, night perspirations, or diarrhœa, and give such other general information regarding their present condition and state of health as their own intelligence may suggest.

To facilitate this mode of consultation I have prepared a printed list of questions, answers to which will contain the essential particulars requisite to form a correct opinion as to the nature and stage of the disease. This list will be forwarded on application to those who are so circumstanced as to be unable to visit me for a personal examination. On this statement I can always prescribe without the least difficulty, and by keeping up a regular correspondence with the patient while using the inhalations, the process of cure can be fully carried out. I need

scarcely add, that if a patient can come to London, and permit me to make a thorough investigation of the case personally, it should be done, but it is folly to put off applying for advice because this cannot be accomplished at once. Delay may give time for the disease to advance to another stage, and so occasion the necessity for a much more prolonged course of treatment.

CASES ILLUSTRATIVE OF THE EFFICACY OF MEDICATED INHALATIONS.

A PHYSICIAN generally encounters much difficulty in determining upon the manner in which he will make known the results of his practice, and particularly so in a publication of this description. It is important that he should illustrate the success of the system of treatment which he pursues, but in doing this due regard must be paid to the feelings of his patients, while at the same time he must be sufficiently circumstantial to identify the nature and peculiarities of each case.

While I have therefore carefully guarded against any undue publicity, I have nevertheless been as exact in my description on all points of interest as was indispensable for the object I had in view. In giving statements of the following cases which have been successfully treated by the method described in the body of the work, I have endeavoured to accomplish this without giving ground of offence to any person.

The subjoined statements, therefore, must be regarded by the reader merely as abstracts from the professional records that I have in my possession, but I think they will be found to point out very clearly the advantage of my mode of treatment over any other hitherto used.

A case of Incipient Consumption, accompanied by obstinate Chronic Catarrh and Enlarged Tonsils.

Miss A. F——, aged ten years, of delicate frame and scrofulous habit, but with no admitted hereditary tuberculous tendency. Two years before

coming under treatment she had an attack of measles, from the effects of which her mother stated that she never seemed to have recovered. On examination of the chest there was dullness on percussion, and loss of respiratory murmur at the upper portion of the right lung. The nostrils were in a state of ulceration, with constant mattery discharge which had existed more or less since her previous illness. The eyelids were also ulcerated, and there was poured out from them a highly-irritating secretion. The tonsils were very much enlarged, almost meeting, and in consequence the voice was imperfect. Her complexion was pale, and her flesh soft and flabby. The expression of the features betokened great languor, she was fatigued by the slightest exertion, and her respiration was quick even when at rest. Her sleep was much disturbed in consequence of these obstructions to breathing. She had hectic symptoms daily, with frequent copious night sweatings.

There was almost constant cough during the night and after the morning meal, with a yellow and somewhat glutinous expectoration. She was subject to occasional nose-bleeding with frequent frontal headache, so severe at times as to incapacitate her from study or amusement. There had been considerable loss of weight within the last few months.

The nature of this case was at once apparent, and called for prompt and energetic treatment. She was directed to inhale vapours of a soothing and astringent nature; daily applications were at the same time made to the nostrils and fauces by means of suitable syringes, and her general health was regulated by various forms of tonics. From having been previously closely confined to the house, she was ordered to live as much in the open air as the state of the weather would permit. Healing applications were also made to the nostrils and eyelids.

Her improvement was uniform and rapid. As the discharges from the mucous membrane of the nostrils and eyelids subsided, and the tonsils diminished in size, the character of the inhalations was changed, with a view to promote the absorption of the tuberculous deposit which evidently existed in the right lung. In the course of three months her urgent symptoms had disappeared, she had become plump, and was able to take active exercise without fatigue or difficulty of breathing. Her sleep was tranquil, and there was an entire restoration of the breath-sounds of the affected lung.

A case of Acute Consumption.

Miss T—, aged twelve years. About three months before commencing treatment she was observed to become languid and feeble, accompanied with slight hacking cough and difficulty of breathing. This continued until at length she was suddenly seized with fever and great prostration. The

medical man called in at the time pronounced her to be suffering from an attack of pleurisy and inflammation of the lungs, and described "the left lung as being completely blocked up." She had severe cough, great pain in the left side, with intense fever, and little or no sleep. After this state had continued for about three weeks, the cough increased in violence, the expectoration became profuse in quantity and of a yellow colour. There was great emaciation, she was unable to raise herself in bed, and had all the usual constitutional indications of rapid decline.

It was in this condition that she commenced the treatment by inhalation. This case being viewed as one of acute consumption, it became necessary to resort to every expedient calculated to arrest the progress of the disease, and save the patient's life. The case presented all the difficulty which the complication of inflammation of the lung always produces. The great object to be attained in the first instance was to subdue this inflammatory condition, and for this purpose warm soothing inhalants with counter-irritants to the affected side of the chest, generous diet, and free ventilation of her apartment, were prescribed.

As the urgent symptoms abated, astringent inhalants were employed for the purpose of controlling the excessive secretion. In about six weeks, in consequence of the subsidence of the inflammatory state, it became practicable to distinguish whether there existed any further diseased condition, and it was then discovered that extensive and diffuse tubercular deposits were present; and these must have existed previous to the occurrence of the inflammation, which would account for the symptoms preceding this acute attack.

At this time (her residence being in a low-lying portion of town) she was removed a short distance into the country, having so far recovered as to permit this change. From this period her improvement was uninterrupted, and in the course of six weeks she was found to have gained fifteen pounds in weight.

The form of the inhalations was varied from time to time as the condition of the symptoms demanded, and in six months she discontinued all treatment, and her father, in writing after her recovery, says—"I think the unfavourable symptoms began to abate as soon as she commenced the inhalation, and I confidently believe that to this part of the treatment is owing chiefly her rapid recovery and restoration to health."

A case of Chronic Consumption.

A lady residing in a northern suburb of London came under treatment in the month of October, 1864.

She was twenty-eight years of age, of slight frame and feeble constitution. When sixteen years old, she suffered from an attack of acute catarrh, which was never completely arrested, and became chronic, being aggravated by each recurring winter season. Cough made its appearance during this time, but it was only at the beginning of 1863 that her apprehensions were awakened with regard to the state of her lungs.

At the period of her examination she had constant hacking cough in the morning, accompanied by the expectoration of grey and yellow matter. There was a sense of tightness across the chest, occasional pains on the right side, and the breathing was much hurried. There were cold chills and feverishness daily, with occasional night-sweating. She was much emaciated and her strength greatly impaired. There was a granular and ulcerated condition of the throat and tonsils; the pulse was quick and feeble, and the digestive functions very much deranged. The stethoscope revealed the existence of circumscribed tubercular deposits in the left lung, which had evidently commenced to soften.

She was immediately placed under active treatment by inhalation; tonics were given internally to improve the digestive function, and counter-irritants were freely applied to the surface of the chest. Appropriate applications were also made to the nose and throat.

This treatment, varied occasionally according to the indications of the case, was persevered with during the space of five months, when, being restored to health, she was able to abandon all treatment, and has since remained perfectly well.

A case of Chronic Consumption.

J. H—, a young woman of a highly nervous temperament, and belonging to a consumptive family, came under treatment in the month of October, 1864.

She had been ailing for more than twelve months. She was found to be much emaciated and suffering from much languor and debility. On examination of the chest tubercular deposition was discovered in the right lung, with extensive bronchitis; there was constant cough, sometimes occurring in severe paroxysms, with copious thick expectoration of a greenish colour; great shortness of breathing, daily hectic, with night-sweating, the pulse being 100 per minute. There had also been occasional attacks of blood-spitting.

She was put under treatment by inhalation, with other appropriate constitutional remedies.

In the following February she was found to be much improved; the

cough had been less frequent since Christmas, and the breathing had become tranquil. In March the improvement was progressive, she having gained considerable flesh; the expectoration had diminished in quantity and altered in appearance. After steady perseverance for a period of six months she discontinued treatment, and in July she presented an improved appearance and her general health was good. Examination of the lungs showed a decided change in the character of the breathing, and an absence of those morbid signs which were so noticeable at the commencement of her treatment.

A case of Chronic Consumption, complicated with obstinate Bronchitis.

A married lady residing in the North of England, suffering from chronic bronchitis, following an acute attack five years ago, and who was engaged in sedentary pursuits, had very troublesome cough, with copious yellow expectoration occasionally streaked with blood; shortness of breath on any exertion, pain across the chest, frequent cold chills, irregular hectic, and occasional night perspirations.

There had been gradual loss of flesh, accompanied by great debility and impaired digestive functions.

On examination with the stethoscope, both lungs were found to be studded with tubercular deposits, and there was at the same time extensive and diffuse bronchitis. Softening also appeared to have commenced in the left lung. A most unfavourable opinion was expressed with regard to the nature and probable issue of this case.

She was, however, placed under a systematic course of local treatment, in the use of which she persevered for many months, and with the happiest results.

Since discontinuing regular treatment she has enjoyed good health, and has been able to follow her usual employment with comfort.

A case of Chronic Consumption of several years' standing, simulating Asthma.

A lady of middle age, short stature, but with a well-developed frame and capacious chest, was first seen in the latter part of last year. In this case there was no admitted hereditary predisposition.

She had suffered for nearly four years from repeated attacks of bronchitis, pleurisy, and inflammation of the lungs, and had been variously treated by several physicians. She had sought shelter during the winter months at numerous favourite localities.

When examined in the month of October, 1867, her symptoms were as follow:—Constant cough which completely disturbed her rest at night, occurring in violent paroxysms and accompanied by great difficulty of

breathing. The expectoration was very profuse and purulent. There was a total inability to lie on the right side, with pleuritic pains through the left side of the chest; occasional chills and daily hectic, but little or no perspiration at night. She had had frequent attacks of blood-spitting since her first illness. Her voice was much impaired, and her throat was irritable. There was not much loss of flesh, and, with the exception of a slight tendency to constipation, the functions were naturally performed.

The stethoscope indicated the existence of a considerable cavity in the right lung, over which the chest was depressed and flattened.

In view of the severity of this case, the great object was to conduct her treatment in such a manner as to avoid the necessity of removal from home, and at the same time to endeavour to heal the injured lung.

Inhalations of various forms, both by the ordinary inhaler and the atomizer, were freely and persistently used with very marked subsidence of all her troublesome symptoms. She can now lie with comfort on the right side, sleep tranquilly at night, the expectoration is less profuse and more easily brought up, and she expresses herself as having passed through the winter with greater comfort than she has for several years.

A case of Acute Consumption.

The following case, treated entirely by correspondence, clearly shows the great advantage of medicated inhalations in arresting consumptive disease. The account is in the language of the patient's father, who has kindly permitted me to make use of his name and address:—

About the beginning of October, 1864, my daughter, thirteen years of age, began to complain of pain in her left side, with much coughing. She gradually became worse, and at Christmas was obliged to give up her accustomed occupation. In January, 1865, she had a severe attack of what our doctors called gastric fever and bronchitis. She was attended by two medical men of respectability and extensive practice. She suffered from this fever for five weeks, but when it left her she did not seem to get any better, and then the doctors began to express the opinion that she was in a *consumption*, her left lung being seriously affected, and gave it as their opinion that the seeds of it were sown before she took the bronchitis and fever. About March they began to warn us, little by little, that we must make up our minds to lose her—that everything had been done for her and she could not survive long. We made up our minds to try the treatment by inhalation, though at this time we had very faint hopes that she would survive till we got the medicines. She was now a complete skeleton, apparently just alive. She had coughed and spit until she was too weak to get the matter up. Her pulse was 130 in the minute, and her breathing quick

in proportion; she had hot fever flushes in the face every day, and violent night perspirations.

On the 6th of April, 1865, we received the inhaling instrument and first supply of medicines, and commenced to carry out the instructions with regularity. Up to this time, for several weeks, we had watched her night and day. We gave her the first inhalation at bedtime, and she got sound sleep for most of the night, which was such a change that we looked several times to see if she was alive. At the end of *three weeks* we could perceive that her *breathing was better*; and her nights had now become good, and she could sleep sound. Her cough began to abate, and the night perspirations gradually left her, and she began to take more food. About this time our doctor called to see her, and as he sat looking at her he made this remark: "She breathes better." After another week, we told him what we were trying; he saw the medicines, and encouraged us to persevere, honestly, like a man. I believe the doctors took more interest in her than they do with most patients, and we respect them for their kind encouragement and sympathy.

By the end of the *first month's* treatment she began to sit up a little, after having been in bed for thirteen weeks: her pulse had fallen from 130 to about 100. Soon—about the 15th May—she began to try to walk out a little, but was so feeble her mother was obliged to support her from falling. We still continued to use the medicines with great confidence, never neglecting the inhalations once. On the 9th of June we began the third month's treatment, and on the 18th of June we took her to Blackpool for change of air. She could then walk about 400 yards by herself. She remained at Blackpool about five weeks, still continuing to use the treatment. On her return she was able to walk nearly four miles, from Accrington Station to our home. From this time she discontinued the treatment by degrees, she continued to gain flesh and strength steadily, and she is now the picture of health, and able to attend to all her domestic duties, and officiate as organist at All Saints' Church, Godshaw.

JAMES RILEY,

Love Clough, Rawtenstall.

Reference can be made to the Rev. John Howard, Incumbent, Godshaw, near Rawtenstall.

A case of Incipient Asthma.

Mr. C——, aged forty-seven years, a farmer by occupation, whose mother is reported to have died from asthma, came under treatment at the end of 1864. He had been suffering for three years with periodical attacks of difficult breathing, which had gradually commenced without any previous bronchitis.

At the time of examination there was very slight cough, and that principally coming on after meals; there was no expectoration, but great sleeplessness in consequence of the difficulty of breathing. He suffered much from headache and giddiness, cold feet and hands, imperfect digestion, and had lost flesh considerably during his illness: all showing the extent to which the circulation and nutrition were influenced by the want of sufficient aëration of the blood.

The stethoscope revealed the usual indications of spasm of the air-tubes.

He was under treatment by inhalation for three months. The improvement was gradual but progressive from the first, and when seen a year afterwards he had experienced no recurrence of his complaint.

A case of Spasmodic Asthma.

H. R——, aged thirty-two years. Had laboured under what was called “dry asthma” for nearly sixteen years.

He said that his sufferings at times were such as to render life a burden, and the paroxysms were so severe and frequent as to create the greatest alarm among his friends. He had lost much flesh, and had sought by residence in warm localities to obtain some relief, but without success.

He was immediately placed under treatment, soothing and antispasmodic inhalations being administered frequently during the day.

As there seemed to be no complications arising from inflammation or disorder of any of the other organs, but little stomachic medicine was given, and this only with the view of promoting the appetite and stimulating the digestive function. The attack rapidly subsided, first in severity, and afterwards in frequency, until in the course of a few months he was entirely free from any paroxysm, recovered his loss of flesh, and was enabled to resume full and active employment. He has had no recurrence of his disease within the past three years.

A case of Spasmodic Asthma, accompanied by periodic attacks of Acute Bronchitis.

The subject of this disease was a gentleman aged forty-six years, of large frame, and a highly-sanguine temperament.

When about fourteen years old he was attacked by difficulty of breathing while in a hay-field, and for several years afterwards exhibited all the characteristics of “hay asthma,” the attacks usually coming on at the flowering season of the year. Gradually, however, the difficulty of breathing became permanent, the spasmodic attacks were frequent and distressing, and at length they occurred almost daily. His rest at this period was very much disturbed, he not being able to sleep continuously through any night.

He had lately, also, been subject to attacks of bronchitis, which recurred with periodical regularity at the change of the seasons. As the result of this long-continued state of suffering, his general health (in spite of a robust constitution) began to give way. When first seen with a view to treatment, there was a constant sense of great oppression of the chest, with short and hurried breathing, a hacking cough, and expectoration of viscid mucus, occasional febrile attacks, inability to exert himself to any extent, and difficulty in retaining the recumbent posture. On examination of the chest, clear evidences were detected of dilatation of the larger bronchial tubes, with more or less interference with the proper expansion of the lung tissue, occasioned by spasmodic contraction of the smaller tubes and filling up of the air-cells with viscid secretion. By the employment of moist inhalations and dry fumigations, used alternately, he soon began to improve; one of the earliest symptoms of amendment being his ability to sleep quietly through the night. The improvement was gradual but uniformly progressive; he soon put on a stout and healthy appearance, was able to resume and fully attend to his occupations, and the intervals between the spasmodic attacks became greater, until they rarely occurred more than once in the year.

In this case we have a disease of thirty years' standing checked in its progress to the complete relief of suffering and the perfect restoration of health.

A case of Spasmodic Asthma occurring in a Rheumatic Patient.

This occurred in a young man aged twenty-one years, a clerk in a merchant's office, who had re-sided for some time in Canada.

There was no evidence of hereditary predisposition, but he had been subject to frequent attacks of bronchitis and rheumatism.

Three years before coming under treatment he first began to experience a difficulty in breathing, which had gradually increased in severity and assumed a periodical character; the intervals between the attacks becoming less and less until at length they occurred nightly, interfering with his proper rest and preventing him from following his employment.

There was at this time constant morning and evening cough, with expectoration of a considerable quantity of a bluish-yellow viscid mucus. He had slight wandering pains through the chest, with a sense of great constriction. The throat was inflamed and granular, and the voice husky. There was always more or less flushing and heat of skin, and the pulse ranged about 90 beats per minute. He had lost a good deal of flesh, and was much prostrated both bodily and mentally.

A careful examination of the chest established the fact that there was dilatation of the bronchial tubes and air-cells, with several patches of that

peculiar condition of the lung tissue called by physicians "emphysema." There was also extensive and diffuse bronchitis.

The chronic character of this case, its severity, and the repeated occurrence of the rheumatic attacks, all contributed to render it a formidable one for any mode of treatment; but by systematically and perseveringly carrying out the treatment and discipline prescribed for him, he has been able to attend to his duties during the last three years and a-half, and is now in the enjoyment of good health, and has become a robust man.

The following letter received from this patient will show the result of the treatment pursued:—

109, Downham-road, London, N.E.,
15th December, 1868.

DEAR SIR,—You will, I doubt not, be pleased to hear that I have now lost all my troublesome symptoms, and I trust they will never return. The difficulty of breathing, asthmatical spasms, and cough have entirely ceased, and my health is so far restored. I cannot help contrasting my present condition with what it was before I came under your medical treatment. As I have before mentioned to you, I had been suffering for some years from asthma, and had tried every means of cure I could think of, including the advice and prescriptions of several physicians celebrated for their treatment of diseases of the chest, but without any satisfactory result. My life was a misery to me, and I used to look forward to bedtime with horror. I hope you will not think the term exaggerated, but any person suffering as I did from cough, sweating, wheezing, and gasping for breath during several hours of the night, will, I am quite sure, sympathise with the expression. All this, thanks to Providence and your medical advice, is ended, and it will always afford me the greatest satisfaction to recommend any person whom I know to be suffering from chest disease to you for advice. From the first I saw that your treatment of diseases of the lungs by inhalation was at least reasonable, and I determined to give the system a fair trial, which determination I have certainly found no reason to regret. I trust you will excuse the manner in which I have adverted to this subject, for I imagine it must always be satisfactory to a physician to hear of the success attending his efforts in connection with his patients.

I remain, dear Sir, respectfully yours,

A. C.

To Dr. R. G. WATTS, 5, Bulstrode-street, Cavendish-square.

A case of Chronic Bronchitis.

A gentleman, by profession a civil engineer, had a severe attack of acute bronchitis early in the year from which he never entirely recovered, and

which, to use his own expression, had "settled upon one lung." He had been variously treated for some time, but without any permanent benefit.

There was great shortness of breathing, much debility, and profuse perspiration on the slightest exertion; coughing was constant and severe, and accompanied by the expectoration of a very sticky mucus. The throat also was much ulcerated, and the tonsils enlarged.

Being naturally a stout man he had lost a great deal of flesh, and was entirely incapacitated from following his professional duties.

He was treated by warm, moist inhalations of an expectorant character, a powerful embrocation was also applied to the surface of the chest, and the air of his bedroom was medicated every night before he retired to rest. After a short time the expectoration became easy, the breathing was relieved, and he began to gain flesh. At the end of three months he discontinued treatment, perfectly restored, and has since continued to enjoy good health.

A case of Chronic Bronchitis, accompanied by Chronic Laryngitis.

A clergyman, aged forty, of robust habit of body, had suffered from repeated attacks of acute bronchitis, which ultimately became chronic, and after some months the symptoms of chronic laryngitis showed themselves. The voice became so much impaired that he was obliged to give up his clerical duties.

A careful examination of the larynx showed considerable thickening and roughness of the mucous membrane, and he had all the well-marked symptoms of dry bronchitis fully developed.

He was under treatment about four months, by means of spray inhalations and frequent applications made with the laryngeal syringe, when all his severe and troublesome symptoms disappeared, and he expressed himself as feeling perfectly well.

A case of constitutional Eczema.

Mrs. C——, thirty-two years of age, of a lymphatic temperament, and member of a consumptive family. Some time previous to being prescribed for she had an attack of scarlet fever, from which she made a slow recovery. Since her convalescence she had frequent discharges of blood from the nose, with occasional pains in the head, attacks of feverishness, and night perspirations.

On examination the nostrils were found dry and irritable, with much difficulty of breathing through them, great huskiness of voice, and an offensive odour of the breath. There was thickening and ulceration of the

mucous membrane lining the nasal passages. She had also suffered from suppurating glandular swellings, and a crusty eruption over the head and face. There was slight cough, loss of flesh, and great prostration of strength. She was placed under treatment with stimulating inhalations, and applications to the nostrils and fauces, by the means of the curved syringe. In the course of three months this patient was so far recovered as to be able to leave London, and while in the country continued the inhalations with great regularity. On her return in the autumn she reported herself as perfectly well in every respect.

A case of severe Scrofulous Ozena, threatening destruction of the nasal bones.

The subject of this interesting case was an unmarried lady fifty-four years of age, of spare habit of body and scrofulous constitution. She had been suffering for eighteen years from chronic catarrh, which had come on very gradually. The discharge from the nostrils was a yellow glairy matter, which occasionally accumulated in the frontal sinuses, producing headache and a sense of tightness in the part, with considerable constitutional disturbance. This condition was followed by a renewed and increased discharge of a thicker and very offensive matter. After a time there was a tendency to the formation of large scabby masses at the back of the nostrils, which occasioned interference with the act of breathing, especially during sleep. These would be occasionally separated by a violent effort, sometimes passing through the nostrils, sometimes down the throat. This result was frequently followed by copious bleeding from the nose. She had lost flesh considerably, and suffered from hoarseness, with a sense of soreness in the throat. The digestive functions were impaired, but there were no indications of disease in any of the internal organs.

During this long period of illness she had recourse to various methods of treatment, both local and constitutional, without any marked benefit. This obstinate condition seemed almost to preclude a hope of permanent recovery, and required much moral courage on the part of the patient to continue with that perseverance which was so essentially necessary. During the progress of her treatment she has discontinued for intervals of a few weeks at a time, but has always recurred to it again with confirmed confidence of its ultimate success. She was placed under dry fumigations, with stimulating inhalations and healing applications by means of the syringes.

All her aggravated symptoms have been mitigated; there are no longer any scabby or offensive discharges from the nose, her general health is fully re-established, and she is able to be less observant of the strict discipline that she was compelled to undergo while under regular treatment.

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CONSUMPTION AND ITS CURE.

BEING

A POPULAR AND PRACTICAL TREATISE

ON

THE NATURE, CAUSES, SYMPTOMS, AND RATIONAL TREATMENT OF
TUBERCULOUS DISEASE OF THE LUNGS, AND THOSE AFFEC-
TIONS OF THE NOSE, THROAT, AND AIR-PASSAGES, AS
CATARRH, LARYNGITIS, BRONCHITIS, &c., WHICH
GENERALLY PRECEDE OR ACCOMPANY IT:

WITH

CASES

ILLUSTRATING THE SUCCESS OF THE TREATMENT.

BY

ROBERT GEORGE WATTS, M.D.,

Member of the Royal College of Surgeons of England,
&c., &c.

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